

Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB.

Conducted and published for the Club, by

BENJAMIN LINCOLN ROBINSON Editor-in-chief.

FRANK SHIPLEY COLLINS
MERRITT LYNDON FERNALD } Associate Editors.
HOLLIS WEBSTER

WILLIAM PENN RICH
EDWARD LOTHROP RAND } Publication Committee.

Vol. 13.

August, 1911.

No. 152.

CONTENTS:

Type of the Genus <i>Panicum</i> . <i>A. S. Hitchcock</i>	173
Notes from the Phaenogamic Herbarium of the New Eng- land Botanical Club,—II. <i>M. L. Fernald</i>	177
Notes on Algae,—X. <i>F. S. Collins</i>	184
New England Federation of Natural History Societies <i>J. H. Emerton</i>	187
<i>Epilobium palustre</i> , var. <i>longirameum</i> . <i>M. L. Fernald & K. M. Wiegand</i>	188

Boston, Mass.
1052 Exchange Building.

||| Providence, R. I.
Preston and Rounds Co.

RHODORA.—A monthly journal of botany, devoted primarily to the flora of New England. Price \$1.00 per year (\$1.25 to all foreign countries including Canada); single copies 15 cents. Volume 1, \$2.00, Vol. 2, \$1.50. All remittances by check or draft, except on Boston or New York, must include ten cents additional for cost of collection. Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be gladly received and published to the extent that the limited space of the journal permits. Forms will be closed five weeks in advance of publication. Authors (of more than one page of print) will receive 25 copies of the issue in which their contributions appear. Extracted reprints, if ordered in advance, will be furnished at cost.

Address manuscripts and proofs to

B. L. ROBINSON, 3 Clement Circle, Cambridge, Mass.

Subscriptions, advertisements, and business communications to

W. P. RICH, 300 Massachusetts Avenue, Boston, Mass.

Single copies may be had from

E. L. RAND, Corresponding Sec'y N. E. Botanical Club,

1052 Exchange Building, Boston, Mass.

Entered at Boston, Mass., Post office as Second Class Mail Matter

KEY TO NEW ENGLAND TREES, Wild and Commonly Cultivated, based primarily upon leaf characters, by J. FRANKLIN COLLINS and HOWARD W. PRESTON. Price 40c. net. PRESTON & ROUNDS Co., Providence, R. I.

CARD-INDEX OF NEW GENERA, SPECIES AND VARIETIES OF AMERICAN PLANTS, 1885 TO DATE.

For American taxonomists and all students of American plants the most important supplement to the Index Kewensis, this catalogue in several ways exceeds the latter work in detail, since it lists not merely the flowering plants, but pteridophytes and cellular cryptogams, and includes not merely genera and species, but likewise subspecies, varieties and forms. A work of reference invaluable for larger herbaria, leading libraries, academies of sciences, and other centers of botanical activity. Issued quarterly, at \$15.00 per 1000 cards.

GRAY HERBARIUM of Harvard University,

Cambridge, Mass., U. S. A.

CHECK LIST OF GRAY'S MANUAL, 7th EDITION, compiled by M. A. DAY. Leatherette. Pocket size. Invaluable for collectors' memoranda and herbarium records. Published and sold by the GRAY HERBARIUM, Cambridge, Mass. Price post-paid 20 cts. each. Ten copies \$1.50.

Advertisements of Nurserymen and Dealers in Botanical and other Scientific Publications are inserted in these pages at the following rates per space of 4 in. by 3-4 in. 1 year \$4.00, 6 months \$2.50.

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 13.

August, 1911.

No. 152.

TYPE OF THE GENUS PANICUM.

A. S. HITCHCOCK.

IN a recent article¹ Dr. J. A. Nieuwland has discussed the Type of the Genus Panicum. The author maintains that the name Panicum should be applied to the group containing the historic type, *Panicum italicum*, and that the group to which the name is applied by recent authors, and which contains such species as *Panicum dichotomum* L. and *P. capillare* L., should receive a new name. For this group he proposes the name Chasea, and lists under this name several species of Panicum.

Due probably to his limited library and herbarium facilities and his unfamiliarity with the group of grasses involved in the discussion, the author has made a variety of errors. It seems worth while placing upon record certain corrections as to facts together with a few statements concerning differences of opinion.

I agree with the author that the historic type of Panicum is *P. italicum* L. If the name Panicum should be applied to the group containing *P. italicum* L., then the name Milium should be applied to the genus containing *P. miliaceum*, the historic type of Milium. It may be remarked that, after 1753 the name Panicum was used in this sense by Miller, Adanson, and Moench, and more recently by Bubani.² The whole subject of the type of the genus Panicum has been discussed in the recent revision of the North American species³ which, however, Dr. Nieuwland apparently has not seen.

¹ The American Midland Naturalist 2: 60. 1911.

² Fl. Pyren. 4: 261. 1901.

³ Contr. Nat. Herb. 15: 11-15. 1910.

The author attempts to defend his opinion by citing the rules of the Vienna Code. I submitted this very question to Prof. A. Engler, who stated that according to the rules, when the Linnaean genus *Panicum* was divided the name should go with the group having the greater number of species. It must be borne in mind that the Vienna rules do not dictate the historic type of a genus as the type species to be chosen. Linnaeus himself indicates no type but does make it evident from his description of the genus *Panicum* and his note appended to that description¹ that he does not consider as typical those species with awns or involucrate bristles. I believe that according to either the Vienna or the American Code, the name *Panicum* should be applied to the group containing *P. miliaceum* and that under no set of principles is the publication of the new name *Chasea* justified.

Dr. Nieuwland cites Linnaeus' *Philosophia Botanica* (pp. 167 and 168) as authority for applying the name *Panicum* to the involucrate species. But by the same authority he should apply the name *Milium* to the group he has named *Chasea*.

The author assumes that "Fernald and Robinson" and "Parrish" are not following the Vienna Code, when the name *Setaria* is retained for the involucrate species of *Panicum*, since there is an earlier homonym, "Acherson [Acharius] having given it to a group of lichens in 1798." Dr. Nieuwland has overlooked the provision of Article 50, "No one is authorized to reject....a name....because of the existence of an earlier homonym which is universally regarded as non-valid...."

But, after deciding that the name *Panicum* should apply to the genus usually known as *Setaria* or *Chaetochloa* he says, "This procedure leaves the other genus hitherto called *Panicum* by the authors, without a name, as far as I am able to ascertain, and I propose that of *Chasea*." However there are already several published names available, among which may be mentioned, *Urochloa* Beauv. 1812, based on *U. panicoides* (*Panicum Helopus* Trin.); *Paractaenum* Beauv. 1812; *Steinchisma* Raf. 1830; *Eriolytrum* Desv. 1830; *Phanopyrum* Nash, 1903. It might be inferred that the author excludes all the above groups from *Chasea* were it not for the fact that he considers as synonyms of *Panicum* (*Chaetochloa*) the very distinct genera *Ixophorus* Schlecht. and *Chamaeraphis* "R. Br. 1810 (?)."

¹ Linn. Gen. Pl. ed. 5. 29. 1754.

Dr. Nieuwland states concerning *Setaria* Beauv. as a homonym, "Scribner recognizing this, called the genus *Chaetochloa*, but it had already been given a name, *Ixophorus* by Schlechtendal in 1861-62." I fear that Dr. Nieuwland did not read what Schlechtendal says, for the latter in proposing the genus *Ixophorus* (based on *Urochloa unisetata* Presl), shows how it differs from *Setaria*. Schlechtendal's article¹ was published in 1862, not "1861-1862."

I would call attention to what might be considered a defect in technique, namely, basing the new name *Chasea* on "Panicum of the authors not of Linnaeus or only in part." *Panicum* "of the authors" is very indefinite. The reader is led to infer the application of the name from the species included. It is especially misleading since half of the species mentioned were included in *Panicum* by Linnaeus. It would have been more satisfactory, or at least more definite, if the author had indicated a type species, or based the name *Chasea* upon the *Panicum* of a definite author.

Dr. Nieuwland transfers certain species of *Chaetochloa* to *Panicum* and other species of *Panicum* to *Chasea*. *Panicum occidentale* Nieuwl. (*Chaetochloa occidentalis* Nash), is invalidated by *Panicum occidentale* Scribn. 1899. *Panicum versicolor* Nieuwl., based on *Chaetochloa versicolor* Bicknell, is invalidated by *Panicum versicolor* Doell, 1877. *Chasea pubescens* Nieuwl. is based on *Panicum pubescens* Lam. But as has been shown in another place,² the name to be used for this species, under *Panicum*, is *P. scoparium* Lam. *Chasea prolifera* Nieuwl., based on *Panicum proliferum* Lam., is untenable because the latter name is a synonym of *P. miliare* Lam. The author probably intended to transfer *P. dichotomiflorum* Michx. to which the name *P. proliferum* has been applied by some American botanists.

Another name, *Chasea violacea* Nieuwl., based on "*Panicum violaceum* Linn." is unfortunate, as there is no such species. There is a *Panicum violaceum* Lam., which is a species of *Pennisetum*. It is possible the author meant *Panicum miliaceum* L. but the difference can scarcely be explained as a typographical error.

It is well to mention certain variations in methods of technique in the bibliographic citations. For example, "*Panicum virgatum* Linn., 1753"; when the author's name is abbreviated it is followed

¹ *Linnaea* 31: 420. 1862.

² *Contr. Nat. Herb.* 15: 294. 1910.

3/ by period and comma in fifteen cases, and by period only, in eight cases. When the name is not abbreviated it is usually followed by a comma but a period is used after Nash in one case. The name Scribner is abbreviated three times as "Scribn.," twice as "Scrib.," and once is unabbreviated. In one case a period is placed after Nash in parentheses, and in another case between the name and author. In the citation "Setaria Beauvais, 1812 not Achers., 1798," it may be pointed out that the first author spelled his name "Beauvois" in his "Essai," and the second author referred to is Acharius. Chaetochloa Scribn. was published in 1897 and not 1791. *Setaria italica* was published by Roemer and Schultes in 1817 and not 1897. *Panicum dichotoma* should be *Panicum dichotomum*.

These errors are in part typographical and concern non-essentials but an unusual number may indicate carelessness, and carelessness in non-essentials may give the impression of carelessness in essentials.

It may be noted that the author abbreviates his name as, "Nwd." This is not in accordance with general usage nor in conformity with the recommendation of the Paris Code (Art. 52, especially the commentary thereon, where it is shown that the abbreviation Hkr is susceptible of 2209 interpretations, provided the name begins with H and there are only two other consonants, and not including the combination of vowels i e u).

The above notes emphasize the principle that details of nomenclature should not be considered apart from the study of the organisms concerned, and that it is necessary for an author to be familiar with the group of plants whose nomenclature he attempts to rectify. It is well to heed Article 4 of the Vienna Code, that next in importance to (1) fixity of names, and (2) the avoidance or rejection of names which may cause error or confusion, is the avoidance of all useless creation of names, otherwise the situation is beclouded rather than clarified.

BUREAU OF PLANT INDUSTRY, Washington, D. C.

NOTES FROM THE PHAENOGRAMIC HERBARIUM OF THE NEW ENGLAND BOTANICAL CLUB,—II.

M. L. FERNALD.

THE announcement of the summer meeting of the Josselyn Botanical Society of Maine to be held at Brunswick, August 22–25, 1911, makes it appropriate to select from a large mass of Maine notes the following items which may be of special interest to those planning to attend the field-meeting and which will suggest many points for further observation, especially with the possibility of range-extensions. These notes may be called

SOME NOTABLE PLANTS OF THE BRUNSWICK REGION.

ASPIDIUM SIMULATUM Davenp. The only stations yet known in Maine are the original one described by Davenport when he published the species (Indian Point, Georgetown, June, 1893) and wet woods at Southport (*M. L. Fernald*, August 1, 1894). These stations so nearly approach Brunswick that the species should be sought there — in Red Maple swamps and similar habitats.

POTAMOGETON PECTINATUS L. The only Maine specimens seen by the writer came from brackish pools along Winnegance Creek, Phippsburg (collected in flower August 23, 1909).

LOPHOTOCARPUS SPONGIOSUS (Engelm.) J. G. Smith. Brackish mud of ditches, rills, etc., Winnegance Creek, Phippsburg, September 21, 1907 (*Kate Furbish*), August 23, 1909 (*Fernald & Wiegand*). See *RHODORA*, xii. 120 (1910).

AGROSTIS ALBA L., var. *ARISTATA* Gray. One of the few stations known to the writer is a patch of low woods at Southport (August 8, 1894). The variety is also found at Fairfield (*J. A. Allen*) and should be sought elsewhere.

TRisetum SPICATUM (L.) Richter, which is rare in southern Maine, was collected by Miss Furbish at Brunswick, in 1878.

ERAGROSTIS PILOSA (L.) Beauv. was collected by Miss Furbish at Harding's, Brunswick, in 1899. It is apparently spreading northward along the railroads.

ERAGROSTIS MEGASTACHYA (Koeler) Link, another species which, like the preceding, is apparently traveling northward on railroad filling and ballast, was collected by Miss Furbish at Brunswick in August, 1891.

AGROPYRON PUNGENS (Pers.) R. & S., one of the least known of our American grasses, occurs on beaches or dry marshes from Pine Point to Cumberland and on Monhegan Island. It is probably somewhat general along the southern half of the Maine coast but is as yet known only from the points named and at stations on Cape Elizabeth at one of which it was first detected by Tuckerman in 1860.

CYPERUS NUTTALLII Eddy. The northernmost station known to the writer is on the brackish marsh by Winnegance Creek, Phippsburg (*Kate Furbish*, September 14, 1907; *Fernald & Wiegand*, August 23, 1909). See RHODORA, xii. 120 (1910).

ELEOCHARIS OLIVACEA Torr., a comparatively rare species in Maine, occurs in tidal mud of the Androscoggin River at Brunswick (*Kate Furbish*, October, 1891; *C. A. Davis*, August 1, 1894). It also grows in brackish mud at Winnegance and may prove to be somewhat generally distributed throughout the region.

ELEOCHARIS DIANDRA C. Wright. The station described by Dr. Charles A. Davis in RHODORA, iv. 2 (sand- and mud-banks of the Androscoggin, covered at high tide, Brunswick) is the only one yet known in the state.

ELEOCHARIS RÖSTELLATA Torr. The station (salt marsh along Winnegance Creek, Phippsburg) recorded in RHODORA, xii. 120 and 135 is the only one known in Maine.

SCIRPUS SMITHII Gray, var. SETOSUS Fernald. Muddy bank of the Androscoggin River, Brunswick, August 1, 1894 (*C. A. Davis*), September 15, 1904 (*Kate Furbish*). The only Maine station known.

SCIRPUS FLUVIATILIS (Torr.) Gray. Winnegance Creek, Phippsburg, September 14, 1907 (*Kate Furbish*), August 23, 1909 (*Fernald & Wiegand*). The only authenticated station in Maine. See RHODORA, xii. 120, 134 (1910).

SCIRPUS CAMPESTRIS Britton, var. NOVAE-ANGLIAE (Britton) Fernald. Harding's, Brunswick, September 13, 1891 (*Kate Furbish*).

CAREX AENEA Fernald. The southernmost Maine stations known to the writer are in dry woods at Southport (*Fernald*, July 31, 1894) and on cliffs at Christmas Cove, Bristol (*J. R. Churchill*, July 8, 1903).

CAREX PRASINA Wahlenb., one of the rarer species of Maine, was collected at Brunswick by C. A. Davis in 1894.

CAREX VESTITA Willd. The most northeasterly point known for this species is at Brunswick, where it was collected June 15, 1898, on a sandy embankment by E. B. Chamberlain. See *RHODORA*, vi. 194 (1904).

PELTANDRA VIRGINICA (L.) Kunth. In 1870 Miss Furbish found *Peltandra* in an Alder swamp at Brunswick, a station which has since been obliterated (See A. H. Norton, *RHODORA*, iv. 168). In 1900 Mr. Norton discovered it at Cornish, and there is an old record of the plant at South Berwick (see *RHODORA*, l. c.). Besides material from Brunswick and Cornish there is in the Club Herbarium a very characteristic sheet of specimens collected by Miss Furbish at Livermore Falls in 1878. The species should be watched for throughout southern Maine—in Alder swamps and bottom-lands.

JUNCUS EFFUSUS L., var. *DECIPIENS* Buchenau. The only Maine station known for this slender variety (see *RHODORA*, xii. 87) is a moist thicket at Southport (*Fernald*, July 31, 1894).

JUNCUS ACUMINATUS Michx. The northeastern limit of this species, as far as known, is along Winnegance Creek, Phippsburg, where it was collected by Miss Furbish, July 11, 1899.

ALETIS FARINOSA L. The only Maine specimens known to the writer are two inflorescences collected by Miss Furbish in 1874 at Harding's, Brunswick.

SMILAX ROTUNDIFOLIA L. The most northeasterly station for the Catbrier known to the writer is a rocky bank at Cape Popham, Phippsburg.

LEUCOJUM AESTIVUM L. Reported in the 2d Supplement to the Portland Catalogue (1897) as "thoroughly and abundantly established for 15 years in a brook whence it is rapidly spreading, Brunswick (Joshua L. Chamberlain)." Specimens collected by Miss Furbish in 1899 are in the Club Herbarium.

HABENARIA DILATATA (Pursh) Gray. There are specimens in the Club Herbarium collected by several botanists at various times at Brunswick, but only one from farther south in Maine: Cumberland (*E. B. Chamberlain*).

HABENARIA MACROPHYLLA Goldie. Among the Maine stations for this splendid species should be noted Brunswick (*Kate Furbish*).

SALIX PELLITA Anders. The most southerly station in Maine is at Foster's Point, West Bath, where Miss Furbish collected it in 1892.

RUMEX PERSICARIOIDES L. One of the few Maine stations for this

most distinct Dock is at Fort Popham, Phippsburg (*Kate Furbish*, September 14, 1907).

POLYGONUM FOWLERI Robinson. The southernmost known station for this species is at Cape Newagen, Southport, where the writer found it in August, 1894. In eastern Maine it is common on the strand and at edges of salt marshes and should be sought for at other points west of Penobscot Bay.

POLYGONELLA ARTICULATA (L.) Meisn. The northeastern limit of this characteristic plant of coastal sands seems to be at Fort Popham, Phippsburg.

CHENOPODIUM HUMILE Hook. In August, 1906, Miss Furbish sent to the Gray Herbarium a couple of plants of this species from a ditch at Brunswick. The station is the only one known in the East for this species which is ordinarily found in brackish or saline regions of the Northwest.

ATRIPLEX PATULA L., var. *LITTORALIS* (L.) Gray, which is much less common than var. *hastata*, was collected by Miss Furbish at Foster's Point, West Bath, July 28, 1902.

SUAEDA LINEARIS (Ell.) Moq. is unknown in Maine from east of Brunswick. It was collected by Miss Furbish at Harding's in September, 1899.

ARENARIA GROENLANDICA (Retz.) Spreng. In the 2d edition of Gray's Manual this was reported from "Bath, Maine, on river-banks near the sea," but the original label in the Gray Herbarium of the plant collected by William Gambel reads: "rocks of the Ken[n]ebec near Bath." In the Club Herbarium are specimens from Bath (*Kate Furbish*) and from a rocky bank at Cape Popham, Phippsburg (*Fernald*). It is probable that the *Arenaria* is to be found at other stations in the region.

RANUNCULUS PENNSYLVANICUS L. f. There are no Maine specimens in the Club Herbarium from south of Brunswick, and its southern limit in Maine is probably in that region.

POTENTILLA ANSERINA L. The typical pubescent plant (see RHODORA, xi. 8) which, as far as known, is confined in Maine to the valleys of the St. John, Penobscot, and Androscoggin Rivers, occurs at Topsham (*Kate Furbish*, 1870).

ROSA ACICULARIS Lindl., var. *BOURGEAUIANA* Crépin. One of the few New England stations for this characteristic northern rose is at Foster's Point, West Bath, where it has many times been collected by Miss Furbish on "high land, on beach."

EUPHORBIA POLYGONIFOLIA L. is confined in Maine to the southwestern coast, the northernmost stations apparently being on the sands of Brunswick (*Kate Furbish*), Phippsburg (*Kate Furbish*, *M. L. Fernald*), and Georgetown (*H. M. Noyes*).

EUPHORBIA HELIOSCOPIA L., common in northern Maine but rare southward, was collected by Miss Furbish at Brunswick in 1885.

EUPHORBIA PEPLUS L., another unusual species, has been known as a garden weed in Brunswick for more than forty years (*Kate Furbish*).

COREMA CONRADII Torr. One of the earliest known stations for *Corema* was "in rupestribus aridis, prope Bath, Mainensium."¹ The plant was actually found in 1840 by William Gambel, a pupil of Thomas Nuttall, "on the rocky banks of the Kennebec, in the neighbourhood of Bath,"² and Redfield collected it August 5, 1884 on "barren rocky knolls on a wooded ridge 2 miles west of Bath." There are other stations in the Brunswick region: Gun Point, Harpswell (*Kate Furbish*); "every rocky place," Southport (*M. L. Fernald*); and dry ledges, Bristol (*E. B. Chamberlain*). In all these stations as elsewhere in its range the shrub grows in highly silicious soils and it will be interesting to determine to what extent it occurs in the region of the lower Kennebec and Androscoggin.

TILIA CORDATA Mill., one of the common European Lindens planted in America, seems to be established at Brunswick (Harding's) and at Foster's Point, West Bath, where Miss Furbish has several times collected it.

HELIANTHEMUM CANADENSE (L.?) Michx. is much less common in Maine than *H. majus* which extends eastward into the Penobscot Valley. The most northeastly station for *H. canadense* represented in the Club Herbarium is "The Park," Brunswick (*Kate Furbish*, August, 1903).

HUDSONIA ERICOIDES L., a local species in Maine, occurs at several stations slightly south of Brunswick: Small Point (*Edith Boardman*, 1888), Cape Popham (*M. L. Fernald*), and Hunnewell Point (*C. G. Atkins*).

HUDSONIA TOMENTOSA Nutt. is not represented in the Club Herbarium from east of the Kennebec. The easternmost specimens are from Fort Popham (*M. L. Fernald*, 1894) and from Hunnewell Point (*C. G. Atkins*).

¹ Gray, *Chloris Bor.-Am.* 4 (1846).

² Gray, l. c. 6.

VIOLA BRITTONIANA Pollard. The only Maine material seen of this cut-leaved *Viola* was collected at Georgetown, July, 1900, by Miss H. M. Noyes (now Mrs. Hollis Webster).

MYRIOPHYLLUM SPICATUM L. The only Maine material of this species (which about the Gulf of St. Lawrence prefers brackish water) seen by the writer is from Winnegance, Phippsburg (*Kate Furbish*, 1896).

KALMIA LATIFOLIA L. is a local species in Maine. One of its few stations is on Great Island, Harpswell (*Kate Furbish*, August, 1900).

GAYLUSSACIA BACCATA (Wang.) C. Koch, forma *LEUCOCARPA* (Porter) Fernald. The only station in Maine for the white-fruited huckleberry seems to be Miss Furbish's colony at Brunswick.

VACCINIUM VITIS-IDAEA L., var. *MINUS* Lodd., a rare plant south of Penobscot Bay, is found at "the Gurnet," Brunswick, and at Harpswell (*Kate Furbish*).

SAMOLUS FLORIBUNDUS HBK., an extremely local plant in Maine, is abundant along rills in the brackish marsh of Winnegance Creek, Phippsburg, flowering from July to September. See *RHODORA*, xii. 120 (1910).

GENTIANA LINEARIS Froel. occurs at several stations in Cumberland and adjacent counties, among them Brunswick and West Bath (*Kate Furbish*).

BARTONIA VIRGINICA (L.) BSP. is local on the Maine coast. In the Club Herbarium there is good material collected in August, 1900, at Georgetown by Miss H. M. Noyes (Mrs. Hollis Webster).

LIMOSELLA AQUATICA L., var. *TENUIFOLIA* (Wolf.) Pers. The only authenticated station in Maine is in deep brackish mud of Winnegance Creek, Phippsburg. See *RHODORA*, xii. 120, 143 (1910).

GERARDIA VIRGINICA (L.) BSP. Although this species extends slightly north of Brunswick, it is apparently rare or local north of Portland. The Club Herbarium contains five different collections of it from Brunswick, one from South Poland, and one from Cumberland; but all others are from farther south.

ODONTITES RUBRA Gilib. has long been known from the coast of Lincoln County, on mainland and islands, and is found at some stations (Fort Popham, Cundy's Harbor, etc.) in Sagadahoc and Cumberland Counties. No specimens from nearer Brunswick have come to the writer's attention.

LONICERA DIOICA L. It is probable that this climbing honey-

suckle reaches its northeastern limit in the Brunswick region. The Club Herbarium has numerous specimens, collected chiefly by Miss Furbish, from West Bath, Harpswell, and Brunswick (bank of Stevens River, "Gurnet," and New Meadows River).

SOLIDAGO RACEMOSA Greene. This very characteristic species, confined to rocks along a few of our northeastern rivers (St. John, Aroostook, Kennebec, etc.) has a fine colony on one of the islands of the Androscoggin at Brunswick.

SOLIDAGO ULMIFOLIA Muhl. The most northeasterly station yet known for this plant (somewhat like *S. rugosa*, but with glabrous stems) is on a rocky bank at Cape Popham, Phippsburg (*M. L. Fernald*, August 6, 1894).

ASTER LINDLEYANUS T. & G. seems to reach its southern limit in Maine in the Brunswick region. The writer has before him five sheets collected by various botanists at Brunswick and one sheet from near Bull Rock Bridge, West Bath.

ASTER TARDIFLORUS L., another northern species, is as yet unknown in Maine from south of Brunswick. It was collected there by Miss Furbish in 1894.

BIDENS HYPERBOREA Greene. The only known region of the United States for this boreal species is the salt marsh along Winnegance Creek, Phippsburg. See *RHODORA*, xii. 120, 144 (1910), also x. 201 (1908).

SENECIO SYLVATICUS L. This species abounds on the sea-cliffs of eastern Maine (see *RHODORA*, xii. 106), but the southernmost stations yet known in the state are ledges and cliffs at Southport (*M. L. Fernald*, August 4, 1894) and Georgetown (*H. M. Noyes*, August, 1900).

SENECIO ROBBINSII Oakes is known from East Auburn (*E. D. Merrill*, August, 1896) and from Great Diamond Island, Portland Harbor (*Kate Furbish*, 1887) and should be sought in the intervening territory.

CIRSIIUM PUMILUM (Nutt.) Spreng. The most northeasterly station represented in the Club Herbarium is Brunswick, but the plant undoubtedly extends on gravelly and more sterile areas considerably northeast of that region.

GRAY HERBARIUM.

NOTES ON ALGAE,—X.

FRANK S. COLLINS.

A FEW additions to the North American Flora are recorded in this note, of the blue-green and the red algae; the recent additions to the green algae are not here given. In 1909 the writer published a paper¹ intended to bring together what was known of this group of algae. As usual in such cases, this paper stimulated the study of the group, and in the two years since its publication many additional facts have been received, either as to additional species, or giving fuller information as to species there noted. These additions it is proposed to publish in the course of the year in the Tufts College Studies.

Dermocarpa Vickersiae n. sp. Cellulis vegetativis dense aggregatis, pulvinulos formantibus, margine tenues, centro crassiores; cellulis marginalibus subsphaericis, circa $2\ \mu$ diam.; cellulis partis centralis clavatis, ellipsoideis vel subcylindricis, $4-8 \times 2-3\ \mu$; tegumento communi gelatinoso pulvinulum vestiente; colore laete violaceo vel purpureo; gonidangiis late ovoideis vel subsphaericis, ad $12\ \mu$ diam., gonidia minuta includentibus.

Vegetative cells densely compacted, forming pulvinate expansions, thin at the margin, thicker at the center; marginal cells subspherical, about $2\ \mu$ diam.; cells of the middle part clavate, ellipsoid or subcylindrical, $4-8 \times 2-3\ \mu$; a general gelatinous coating covering the expansion; color light violet or pink; gonidangia broadly ovoid or subspherical, up to $12\ \mu$ diam., containing many minute gonidia. On fronds of *Dictyopteris delicatula* Lamour., Barbados, *Miss Anna Vickers*. Type in herb. F. S. C.; cotype material distributed as P. B.-A., No. 1602.

By the kindness of the members of the family of the late Miss Vickers, there was sent to the writer a very full collection of algae from Barbados, including nearly all the species mentioned in Miss Vickers's publications on the flora of that island,² a number of them in sufficient quantity for distribution in the Phycotheca Boreali-Americana. On looking over a set of *Dictyopteris delicatula* for

¹ Collins, The green algae of North America. Tufts College Scientific Studies, Vol. II, p. 79.

² Vickers, Liste des algues marines de la Barbade. Ann. Sci. Nat., Ser. 9, Bot., Vol. I, p. 45, 1905.

Phycologia Barbadosensis, Paris, 1908.

distribution in this way, delicate pink dots were found on some of the fronds, which proved to be formed by this *Dermocarpa*, apparently new, which I have named for Miss Vickers, whose work will always be of value to American algologists. The volume of beautiful plates, published after her death, represents that part of the work she had planned which was enough advanced for publication.

CALOTHRIX KAWRAISKYI Schmidle, *Algen aus den Hochseen des Kaukasus*, p. 9, 1897. According to the description by Schmidle, this alga forms rather dense tufts, .50 to .75 mm. high, the trichomes about $4\ \mu$ thick in the middle, tapering upwards into a long, slender hair, and suddenly thickened at the base, ending in a wider, hemispherical to ovoid heterocyst; cells varying from one half to one and one half diam. long, blue-green; sheath close, thin and hyaline. This species comes near to *C. Braunii* Born. & Flah., but is of much smaller dimensions in every way.

It is of interest as showing the cosmopolitanism of the smaller fresh water algae; that this species, first found in the Caucasus mountains in 1897, should have appeared in 1906 in a tank in the Physical Laboratory of the University of California, and in 1910, attached to various algae in brooks in Illinois. To Schmidle's description can now be added, Spores 4-5 μ diam., 2-4 diam. long, singly, rarely two, above the heterocyst. This is the fifth species of *Calothrix* for which spores have been recorded, out of the 42 species recorded by Forti,¹ excluding doubtful forms. The genus is distributed all over the world, both in fresh and in salt water, but is much more abundant in the latter; the spore-bearing species, however, are confined to fresh water; one, *C. crustacea*, is normally marine, but is recorded as producing spores only when cultivated in fresh water. This seems reasonable when we remember that spores of this character are contrivances for perpetuating the species over periods of drought, when all the vegetative parts would perish. The *Calothrix* species are specially plants of warm, shallow water; small pools and brooks are often dry in summer, while in deeper bodies of water the decrease in depth would lay bare the region near the shore where *Calothrix* would most abound. The sea level, on the other hand, is practically the same from day to day and year to year; the marine *Calothrix* species usually grow attached to larger plants or in tide pools, and continuously im-

¹ Forti, *Sylloge Myxophycearum*, Vol. V of De Toni, *Sylloge Algarum*, Padova, 1907.

mersed; where they grow on rock or woodwork in a station left bare for an hour or two at low tide, the tufts are dense enough to retain moisture until the tide returns; under these conditions the spores are not needed.

Some five years since the writer published a note on *Acrochaet*~~f~~ and *Chantransia*,¹ treating our species according to the classification of Bornet,² in which species with sexual fructification are referred to *Chantransia*, those with asexual fructification only to *Acrochaetium*. Since that time considerable attention has been given to this group, and sexual organs have been found in species heretofore supposed to lack them. Kylin³ and Rosenvinge,⁴ whose papers are specially important, include all under *Chantransia*, and it is probable that this treatment will be generally adopted. In conformity with this changes should be made in the names given by the writer in the paper above mentioned, and also in a later note⁵ as follows:—

Chantransia Dasyae nov. comb. *Acrochaetium Dasyae* Collins, RHODORA, Vol. VIII, p. 191; P. B.-A., No. 1342.

C. flexuosa (Vickers) nov. comb. *Acrochaetium flexuosum* Vickers, Ann. Sci. Nat., Ser. 9, Bot., Vol. I, p. 60. P. B.-A., No. 1696.

C. Dictyotae nov. comb. *Acrochaetium Dictyotae* Collins, RHODORA, Vol. VIII, p. 193, P. B.-A., No. 1394.

C. minima nov. comb. *Acrochaetium minimum* Collins, RHODORA, Vol. X, p. 133. P. B.-A., No. 1493.

C. Hoytii nov. comb. *Acrochaetium Hoytii* Collins, RHODORA, Vol. X, p. 134. P. B.-A., No. 1540.

Among the material collected by Dr. Hoyt another species of *Chantransia* occurs, which seems to be identical with a Mediterranean plant long since distributed in Erb. Crit. Ital., under the name of an Atlantic coast species, *Callithamnion Lenormandi* Suhr; though Bornet⁶ notes that the two are distinct he does not propose a new name; it may now be called

¹ Collins, *Acrochaetium* and *Chantransia* in North America. RHODORA, Vol. VIII, p. 189, 1906.

² Bornet, *Deux Chantransia corymbifera* Thuret. *Acrochaetium* et *Chantransia*. Bull. Soc. Bot. de France, Vol. LI, p. XIV, 1904.

³ Kylin, Zur Kenntniss einiger schwedischer *Chantransia*-Arten. Bot. Studier tillägnade F. R. Kjellman, p. 113, Uppsala, 1906.

Studien über die Algflora der schwedischen Westküste; Akademische Abhandlung, Upsala, 1907.

⁴ Rosenvinge, The marine algae of Denmark, part I, Kgl. Danske Vidensk. Selsk. Skrifter, Ser. 7, Vol. VII, No. I, 1909.

⁵ Collins, Two new species of *Acrochaetium*. RHODORA, Vol. X, p. 133, 1908.

⁶ Bornet, l. c., p. XIX.

Chantransia Dufourii n. sp. Filamento de cellula basali singula sphaerica, 5–8 μ diam., egrediente, 4–5 μ diam., cellulis 2–5 diam. longis; ramificatione interdum opposita vel alternante, at plerumque secunda; ramis erectis, subdistantibus; sporis 5–6 \times 7–10 μ , sessilibus vel pedicello unicellulari affixis, ad filamentum principale vel ramum, plerumque secundatim seriatis.

Filament arising from a single spherical basal cell, 5–8 μ diam.; erect, 4–5 μ diam., cells 2–5 diam. long; branching sometimes opposite or alternate, more commonly secund; branches erect, not very closely set; spores 5–6 \times 7–10 μ , sessile or on a one-celled pedicel, on the main filament or on a branch, usually in second series. On *Sargassum vulgare* Ag., Beaufort, North Carolina, collected by Dr. W. D. Hoyt. Type specimens in the National Herbarium at Washington; cotype material distributed as P. B.-A., No. 1594, under the name of *Acrochaetium Dufourii*.

This minute species is common on fronds of *Sargassum*, usually in company with *Erythrotrichia ceramicola* (Lyng.) Aresch., and often with *Goniotrichum elegans* (Chauv.) Le Jolis. It appears to be the plant of the Mediterranean distributed by Dufour in Erb. Crit. Ital., No. 953, as *Callithamnion Lenormandi*, but not *C. Lenormandi* Suhr in Kützing, Sp. Alg., p. 640.

AHNFELDTIA PLICATA (Huds.) Fries, forma **furcellata** nov. forma. Ramificatione regulariter dichotoma, frondem subflabellatam efficiente.

Branching regularly dichotomous, giving a flabellate outline to the frond. Black Rock, New Bedford Harbor, Massachusetts, July 25, 1909, Prof. G. T. Moore. Type in herb. F. S. C.; cotype material distributed as P. B.-A., No. 1645.

In the typical form of *Ahnfeldtia plicata*, the branching is very irregular, the branches of quite unequal length, so that the tufts have a very ragged appearance; in the present form the branching is as regular as that of *Polyides rotundus* (Gmel.) Grev., which it considerably resembles, although the *Polyides* is usually a considerably stouter plant.

MALDEN, MASSACHUSETTS.

NEW ENGLAND FEDERATION OF NATURAL HISTORY SOCIETIES.—The autumn meeting of the Federation will be held at Lawrence, Massachusetts, Friday and Saturday, September 29 and 30 in connection with the Natural History Societies of Lawrence and Andover.

Circulars giving details of the arrangements for the meeting will be issued about September 1 and will be sent to any address by the Secretary, J. H. EMERTON, 194 Clarendon Street, Boston.

EPILOBIUM PALUSTRE L., var. *longirameum*, n. var., caule robusto 2-3.8 dm. alto a basi ad apicem ramulis robustis elongatis praedito, ramulis basi decumbentibus valde ascendentibus caulim primum subaequantibus; foliis amplis lanceolatis vel lanceolato-ovatis primariis 4-8 cm. longis 7-15 mm. latis obscure denticulatis, venis parum conspicuis, apice acutis vel obtusiusculis; floribus numerosis plus minusve confertis ante anthesin erectis, petalis pallide roseis 6-9 mm. longis; capsulis albido-sericeis, pedicello brevi recto ascendente.

Stem stout, 2-3.8 dm. high, with stout elongate branches from base to apex; the branches decumbent at base then erect and strongly ascending, nearly equaling the primary stem: leaves large, lanceolate or lance-ovate, the primary ones 4-8 cm. long, 7-15 mm. broad, obscurely denticulate; the veins not very prominent; the tip acute or obtusish: flowers numerous, rather crowded, erect before anthesis; petals pale rose-color, 6-9 mm. long: capsules white-sericeous; their pedicels short, straight and ascending.—An abundant plant in damp spots back of the gravelly sea-strand north of the Straits of Belle Isle. Characteristic specimens examined from LABRADOR: Blanc Sablon, July 30 and August 4, 1910, *Fernald & Wiegand*, nos. 3720 and 3726 (TYPE in Gray Herb.). QUEBEC: Bonne Espérance, July 27, 1882, *J. A. Allen*, no. 53.

In typical *Epilobium palustre*, which is common in Labrador and Newfoundland, the comparatively slender stem is simple or at most sparingly and weakly short-branched, the leaves narrower and entire, the flowers few and smaller, and the fruit on usually elongate pedicels. In some of the material of var. *longirameum* the bulblets which terminate the filiform stolons are much larger than we have seen in other forms of *E. palustre*, being 1-1.5 cm. long.—M. L. FERNALD AND K. M. WIEGAND.

Vol. 13, no. 151, including pages 109 to 172 and plates 86 to 91, was issued
21 July, 1911.

RECENT PUBLICATIONS

Apgar's Ornamental Shrubs of the United States, \$1.50

This new book contains descriptions in plain English of practically all the hardy cultivated shrubs of North America. The introductory chapter tells how plants are propagated, while Part I describes leaves, flowers, and fruits. Part II consists of keys to the genera, with page references to Part III, which contains descriptions of some 900 shrubs, of which more than 600 are illustrated with drawings from nature by the author. This useful volume makes it easy for anyone, without special training, to find for himself the name of any shrub he is likely to come across.

Coulter, Barnes, and Cowles's Text-book of Botany—Vol. I. \$2.00

Part I. Morphology, \$1.50

Part II. Physiology, \$1.25

By **John Merle Coulter**, Professor of Plant Morphology, **Charles Reid Barnes**, Late Professor of Plant Physiology, and **Henry Chandler Cowles** Assistant Professor of Plant Ecology, all of the University of Chicago.

This is a strictly modern presentation of the fundamentals. It is distinguished by its logical presentation, orderly arrangement, subordination of details to principles, omission of sterile facts, and numerous excellent original illustrations.

Specimen pages on request

AMERICAN BOOK COMPANY

NEW YORK

CINCINNATI

CHICAGO

BOSTON

HOME GROWN LILIES.

Fresh from Beds. Wild Flowers, Hardy plants of all kinds.

Send for catalogue.

F. H. HORSFORD, Charlotte, Vt.

BOTANY LABELS 85c. PER 1000 POSTPAID

Also, printed envelopes, letterheads and statements

\$1.00 per 1000 plus stock

For samples write to D. LEWIS DUTTON, Brandon, Vermont

CAMBRIDGE BOTANICAL SUPPLY COMPANY, WAVERLEY, MASS.

BOTANICAL SUPPLIES OF EVERY DESCRIPTION.

Samples of Driers and Mounting Papers sent on request.

ASK FOR NEW CATALOG, NO. 91.

STANDARD MATERIAL. IMMEDIATE SHIPMENT.

Physiological Instruments. How do Plants Work?